CELLPOWER

THE ULTIMATE HYDROGEN EXPERIENCE

HYDRATION

CELLULAR HYDRATION

Hydration is not just about drinking water; it's about how water gets into our cells. This process is known as cellular hydration and is governed by blood osmolarity, osmotic gradient, aquaporin expression, and is tightly regulated by the body.

- The **Blood osmolarity** just refers to the biochemicals that are in the blood (like glucose, sodium, bicarbonate);

- The **osmotic gradient** is the concentration difference between the intracellular and extracellular environments and aquaporins are the water channels;

- **Aquaporins** are proteins that form channels in the membrane of biological cells and selectively conduct water molecules in and out of the cell while preventing the passage of ions and other solutes, thus playing a crucial role in maintaining water balance within the cell.

BODY'S REGULATION

The body strives to maintain osmolarity - refers to the concentration of solute particles in the body's fluids, which is essential for maintaining balance and proper cell function - and works with the kidneys and vasopressin (a hormone) to regulate water in cells. **Under normal conditions, the body efficiently gets water into cells, and there is no issue with cellular hydration.**

HYDROGEN'S ROLE IN HYDRATION

1

Molecular hydrogen has been shown to have beneficial effects on aquaporins activity and their expression. It has been shown to aid in cellular hydration by protecting or maintaining aquaporin expression and has been seen to improve conditions like edema by acting on aquaporins.

See Article

2

Excessive oxidative stress, chronic inflammation and disease can all impact the processes that contribute to optimal cellular hydration. Molecular hydrogen can improve cellular hydration **when there is a deficit, but it does not increase cellular hydration above what is optimal for a cell. Increasing cellular hydration abnormally could be harmful and is associated with cancer cell propagation.**

3

It's important to note that molecular hydrogen itself cannot hydrate the body as it is a gas. It's the water that hydrates, and hydrogen can aid in the body's processes for hydration, especially if there is a deficit in the body's hydration mechanisms.

DRINK WATER!

The body needs water, and while hydrogen can aid in hydration processes, it does not eliminate the need to drink the necessary amount of water.

CONCLUSION

Scientific literature shows that molecular hydrogen can improve or enhance cellular hydration by acting on aquaporin activity or expression but cannot increase cellular hydration above what is optimal for a cell.